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TRANSFORMING DOD CAPABILITIES

A MATRIX APPROACH

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TRANSFORMING DOD CAPABILITIES: A MATRIX APPROACH

SCENARIO 2005

The first few years of DoD's transformation provided many challenges, but 1 October 2005 marked a new beginning. It was the first day of the second round for the DoD Capabilities Matrix Cycle. As the Secretary of Defense gazed out of his office window overlooking the Potomac, he considered the events of the past 24 months. The implementation of a capability-based planning system achieved only modest results, but created the required infrastructure necessary for future success. This infrastructure consisted of a comprehensive vocabulary to describe service capabilities and a suite of computer applications designed to speed the coordination of the capability-based planning cycle through the combatant commands, JCS, the services, and the Secretary of Defense.

Elsewhere in the Pentagon, Captain Morrow, a member of the Joint Staff staff, began the second round of the Capabilities Matrix Cycle by sending out the call for requirements to the combatant commands. The commands base their requirements on the top threats in their area of responsibility. The commands' plans for addressing each threat are entered into the Capabilities Assessment Planning System (CAPS). The system translates the plans into a standardized set of required capabilities.* The capabilities are quantified in measures previously agreed to by the combatant commands and the services. One such capability is Air Dominance, which is measured in thousands of square miles. With common units of measure for each capability, the CAPS system consolidates and makes available to the Joint Staff a prioritized list of required capabilities. These requirements are provided along with recommendations to the Secretary of Defense; who aggregates the combatant commanders required capabilities into a prioritized Capabilities Matrix for the DoD. Capt Morrow and his team submit this Capabilities Matrix to the Army, Navy, Marines, Air Force, Coast Guard, intelligence organizations, and law enforcement agencies. This is followed by the services and several agencies submitting their bids through CAPS to provide portions of the required capabilities. Duplicate bids are made available to the combatant commands, which select a primary and alternate. The results are run through a computer model to assign taskings, reallocate surplus capabilities, and identify capability gaps.

Once the gaps are identified, the Joint staff provides the services the opportunity to bid to increase their capabilities. The services identify the anticipated cost and time frame associated with the requested increase as part of their bid. If approved by the Secretary of Defense, funding is apportioned accordingly during the next budget cycle.

As the Secretary of Defense returned to the stack of documents awaiting his signature, he did so with the confidence that transformation was becoming part of the organizational culture. The implementation of the Capabilities Matrix enabled the DoD transformation efforts to become keenly focused with an unparalleled unity of purpose. Soon the capability-based planning system would ensure U.S. force structure was tailored to dominate emerging threats.

***Transformational Capabilities (Notional)**

Info Dominance
Air Dominance
Sea Dominance
Land Dominance
Space Dominance
Cyber Dominance
Special Ops
Mobility Ops
Defensive Ops
Peace Ops
Power Projection
Forward Presence
Command & Control
Forcible Entry
Interdiction
Strategic Deterrence
Counter-terrorism
Reconnaissance

TRANSFORMING DoD CAPABILITIES: A MATRIX APPROACH

We also decided to move away from the old "threat-based" strategy that had dominated our country's defense planning for nearly half a century and adopt a new "capabilities-based" approach -- one that focuses less on who might threaten us, or where, and more on how we might be threatened and what is needed to deter and defend against such threats¹--Secretary of Defense Donald H. Rumsfeld

INTRODUCTION

The transformation of the Department Of Defense (DoD) to a more lean, lethal, and agile force is dependent upon its ability to adapt force structure to meet near-term and long-term threats.² “Scenario 2005” describes a process designed to dramatically enhance DoD’s ability to develop force structure to meet these threats. The proposed Capabilities Matrix Process provides an alternative to the current force-based requirements process embedded in the Planning, Programming, and Budgeting System (PPBS). Specifically, the Capabilities Matrix Process delivers a means to accomplish the following:

- 1) Provide rapid adjustment and prioritization of war-fighting requirements and capabilities
- 2) Encourage a cooperative culture among the services when building capability packages
- 3) Incorporate the capabilities of non-DoD agencies
- 4) Capitalize on the strengths of the process participants
- 5) Enable the planning process to drive the budget process
- 6) Ensure capabilities meet current and future requirements

¹ Donald H. Rumsfeld, “Transforming the Military,” Foreign Affairs, New York, vol 81, no. 3 (May-Jun 2002): 20.

² Donald H. Rumsfeld, “Message from the Secretary of Defense,” Annual Report to the President and to Congress, 2002, <http://www.defenselink.mil/execsec/adr2002/html_files/Message.htm> (25 November 2002).

Perhaps most significantly, the Capabilities Matrix Process for a relatively low development cost can attain these attributes. As a result, DoD will not have to sacrifice force structure and therefore accept increased risk during the transformation of the organization. This paper will build a case supporting this assertion using a systematic analysis of the Capabilities Matrix Process within the context of a process-driven transformation of DoD.³

WHY TRANSFORM PPBS?

According to one student of the process, Lieutenant Colonel William H. Maglin, II, USA, “The PPBS is DoD’s decision making system, designed to insure that DoD properly utilizes its scarce resources in support of the National Security Strategy (NSS).”⁴ While a number of definitions have been put forth regarding PPBS, this one encompasses the essence of why transformation of DoD must include a serious study of this process. Initially envisioned as a means to distribute resources, it has evolved only slightly since its inception in 1961 under Secretary of Defense Robert McNamara.⁵ As the name implies, the process includes components of planning, programming, and budgeting (Figure 1).⁶ A key input to the process is the National Military Strategy.⁷ A key output is the DoD submission to the President’s budget.⁸ While this extreme simplification of the process belies the complexity involved, it is useful in

³ F. Heylighen, “Basic Concepts of the Systems Approach,” Principia Cybernetica Web, 19 October 1998, <<http://pespmc1.vub.ac.be/SYSAPPR.html>> (15 Apr 2003).

⁴ LTC William H. Maglin, II, USA, “Reforming PPBS: Its Time Has Come,” USAWC Strategy Research Project, (U. S. Army War College, Carlisle Barracks, PA, 1998), 2.

⁵ Maglin, 4.

⁶ Stephen H. Ries, Capt, USN (ret) ed., The Joint Staff Officer’s Guide 2000: JFSC Pub 1, 2000 (Washington, D.C.: GPO, 2000), 2-7.

⁷ Ries, 2-11.

⁸ Ries, 2-19.

understanding the strategic context of what is being achieved by the process. Unfortunately, the inherent complexity of the process leads to guidance and budgetary constraints from senior DoD officials, commanders, and Congress being received after they are required. The result is an incongruent process that continues unabated due to its sheer size and importance. It could be said that the organization serves the process, instead of having the process serve the needs of the organization.

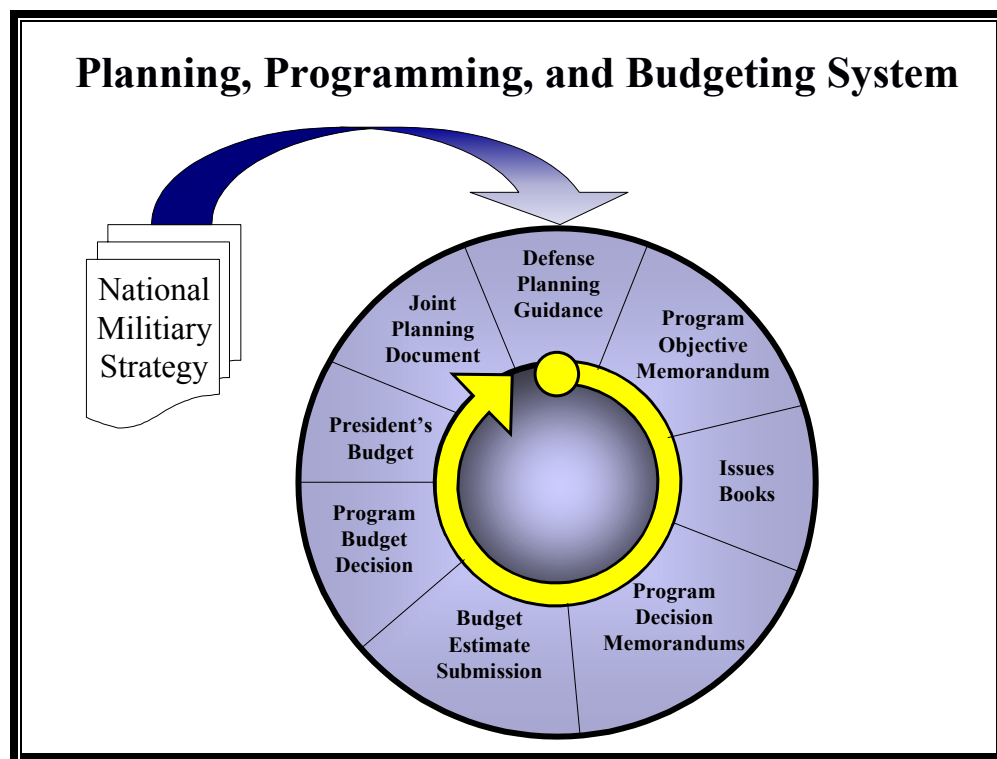


Figure 1

This shortfall was expressed most succinctly by Admiral (ret.) Arthur K. Cebrowski, DoD Director of Force Transformation: "Over time, programming has come to dominate planning to the point where this year's planning is subordinated to last year's programming. The result is a

logical incrementalism, which seems to defy managerial control.”⁹ Given this context, the proposed Capabilities Matrix Process was developed apart from current procedures and focuses instead on the following end state expressed in the April 2003 DoD Transformation Planning Guidance.¹⁰

END STATE

A critical element of organizational change is the identification and communication of a desired end state. In this regard, organizational change is similar to travel. A destination must be determined in advance of the journey to ensure the most direct and least costly routing. Developing an appropriate end state is essential to DoD’s journey to a capability-driven force structure allocation and development process. Secretary of Defense Donald H. Rumsfeld articulated such an end state:

As we prepare for the future, we must think differently and develop the kinds of forces and capabilities that can adapt quickly to new challenges and to unexpected circumstances. We must transform not only the capabilities at our disposal, but also the way we think, the way we train, the way we exercise, and the way we fight. We must transform not only our armed forces, but also the Department that serves them by encouraging a culture of creativity and prudent risk-taking. We must promote an entrepreneurial approach to developing military capabilities, one that encourages people to be proactive, not reactive, and anticipates threats before they emerge.¹¹

This end state indicates a clear vision of a force that maintains a competitive edge over its adversaries through its ability to adapt. To complete this vision DoD force structure will not only need to be rapidly adaptable, but must also have a means of forecasting required capabilities

⁹ Cebrowski, VADM USN (Ret), “Transforming Defense,” Transformation Trends, 21 October 2002, <<http://www.cdi.org/mrp/tt-21oct02.pdf>> (25 November 2002).

¹⁰ Transformation Planning Guidance, Office of Force Transformation, April 2003, <[http://www.oft.osd.mil/library/library_files/documents/document_8_Transformation%20Planning%20Guidance%20\(April%202003\)1.pdf](http://www.oft.osd.mil/library/library_files/documents/document_8_Transformation%20Planning%20Guidance%20(April%202003)1.pdf)> (15 Apr 2003).

¹¹ Transformation Planning Guidance, (15 Apr 2003): 1.

and having forces that can be applied against a wide variety of threats. Any process transformed to adapt force structure to meet emerging threats must address these objectives. The environment in which this transformation will take place is critical to the analysis of this proposal.

TRANSFORMATION ENVIRONMENT

The U.S. is arguably at a crossroads in its development of its military forces. Initially providing for the independence of the original colonies, these forces rapidly evolved from defense to power projection enabling the support of allies globally. Throughout this development U.S. forces were tailored for combat in the specific media of land, sea, and air. The most recent iteration includes the final physical media of space. While cyberspace is a new media for the profession of arms, it is too immature to provide significant opportunities for near-term gains. As a result, the most likely contender for delivering a leap forward in warfighting effectiveness is the development of fully integrated joint operations. Unlike cyberspace operations, joint operations have evolved in earnest since 1986 with the passage of the Goldwater-Nichols Reorganization Act.¹² Towards this end, transformation of the services into a synergistic organization with dramatically enhanced effectiveness should aid greatly in the accomplishment of U.S. national objectives.

Transformation efforts within DoD have primarily involved visions for war fighting. The Army envisions a war-fighting strategy known as the Objective Force.¹³ The Navy is focusing its efforts on the concept of warfare from the sea with three core capabilities: 1) sea shield; 2) sea

¹² Ries, 1-22.

¹³ Bruce R. Nardulli and Thomas L. McNaugher, "The Army: Toward the Objective Force," Transforming America's Military, ed. Hans Binnendijk (Washington DC: National Defense University Press, 2002), 101.

strike; 3) sea basing.¹⁴ The Marine Corps has Expeditionary Maneuver Warfare as its central tenet for transformation and is evolving its forces accordingly.¹⁵ The Air Force views transformation as an opportunity to further integrate operations in space, air, and cyberspace.¹⁶ Each of these service-centric transformational visions does not, however, specifically address the ability of DoD to identify and meet combatant command requirements.

An underlying assumption regarding transformation is that economic constraints will not allow significant increases in either budget or manpower. In addition, the expansion of global terrorist activities, ongoing conflicts in the Middle East, the socioeconomic implosion across much of the African continent, instability in Russia, and the proliferation of Weapons of Mass Destruction in Asia all point to the folly of allowing U.S. military capabilities to wane during transformation. If these assumptions are accurate, then DoD must find transformational opportunities that have the ability to rapidly redirect the organization's focus while best using limited resources and monitoring current readiness. The proposed shift to a capability-driven process meets this constraint, but other factors must be considered when embarking on a transformational journey of this magnitude.

¹⁴ ADM William J. Fallon, "Future of Navy Transformation: Navigating a Crossroads in History," remarks to IDA Seminar: "Innovation and Changing Military Culture," 23 August 2002.

¹⁵ Bing West, "Appendix: The U.S. Marine Corps: Transforming Expeditionary Maneuver Warfare," Transforming America's Military, ed. Hans Binnendijk (Washington DC: National Defense University Press, 2002), 156.

¹⁶ David A. Ochmanek, "The Air Force: The Next Round," Transforming America's Military, ed. Hans Binnendijk (Washington DC: National Defense University Press, 2002), 170.

CONCEPTS AND ASSUMPTIONS

Change Management

In addition to Secretary Rumsfeld's comments on the need for transformation of DoD, he also recognizes the resistance to change that is prevalent in large institutions:

Of course there will always be resistance to change – that's not surprising – change isn't easy. People get comfortable to where they are in life. And this is a big institution. I suppose changing it is like turning a giant ship. It doesn't spin on a dime. It's not a speedboat. It's an important institution, and it's probably good that it takes time. But, the ship is turning. I do believe that we are making progress. I can feel the turn.¹⁷

These comments provide at least one indication that DoD is changing directions. Also implicit in these remarks is a commitment to change at a measured rate towards a definable end state.

The combination of these factors along with the clear communication of an end state should give the entire organization the ability to accept the change as necessary and vital to the accomplishment of national objectives.

Service Cooperation

In addition to properly managing change, transforming the DoD should include a means of encouraging service cooperation. Currently, the services continuously compete for resources and missions. This does little to evoke collaboration. In order to achieve the unity of action being sought through transformation the processes used to allocate resources and missions will need to be adjusted. Ideally, these processes could be tailored to provide incentives for teamwork.

¹⁷ Donald H. Rumsfeld, *Transformation Trends*, 17 March 2003, <http://www.oft.osd.mil/library/library_files/trends/trends_30_Transformation%20Trends17%20March%20Issue.pdf> (15 April 2003).

An analogy that exemplifies such an arrangement exists within the defense industry. In order to win contracts from the federal government it is common practice for competitors to join forces. Generally, each contractor evaluates its strengths and weaknesses, as well as those of its competitors to determine how to put together the most competitive bid. Combining the strengths of several organizations in a single proposal often results in the award of a contract. A recent example is the Joint Strike Fighter (JSF). The team that won the contract includes Lockheed Martin Aeronautics Company, a leader in the manufacturing of fighter aircraft; Northrop Grumman, with expertise in stealth and carrier based aircraft; and BAE Systems, a pioneer in vertical lift aircraft.¹⁸ Individually, each has the capability to produce the aircraft, yet together, they gain expertise critical to the variants of the JSF and won the contract. In order to build this team, the companies had to acknowledge each other's strengths. If the military services could be coaxed into this type of competitive cooperation when vying for resources and missions, DoD could expect a dramatic increase in overall effectiveness.

Capitalizing on Strengths

In addition to service cooperation, another critical element to increasing DoD effectiveness is the decision process for assigning resources and missions. The key players in the decision process are the services, the combatant commands, the Joint Staff, and the Secretary of Defense. Capitalizing on the unique strengths of each, offers the greatest opportunity to enhance the process of assigning resources and missions. The services routinely develop new and innovative ways to apply force with their inventory of weapons and personnel. It is generally recognized that the combatant commanders are the experts at assessing threats within their regions. The

¹⁸ "The Lockheed Martin Aeronautics Team," Lockheed Martin Aeronautics Company, 2003, <http://www.lmaeronautics.com/products/combat_air/x-35/team.html> (15 Apr 2003).

Joint Staff is exceptional at deconflicting service and regional interests. The Secretary of Defense is primarily responsible and accountable for ensuring force structure meets current and future threats. If these strengths are captured in the decision process for assigning resources and missions, DoD can expect to gain the adaptability sought from transformation. It is against this backdrop of considerations that a methodology for developing the Capabilities Matrix Process was chosen.

METHODOLOGY

Intended as a thought piece for PPBS experts, this proposal was created using a decidedly unorthodox approach. The Capabilities Matrix Process was intentionally generated using only a limited consideration of the current force structure development procedures contained in the PPBS process. In lieu of a focus on the current process, a solution was developed focusing on the previously described end state. Using a systems approach, the force structure development process is considered in isolation with primary emphasis given to major inputs, processes, and outputs.¹⁹ This was done in order to optimize the force development process. If ensuring force structure is available to meet current and future capability requirements is a top priority, then this methodology presents a means of minimizing risk. It also ensures the complexities of lower priority adjunct processes and reporting requirements do not sub-optimize the process more than required. Given this basis for developing the Capabilities Matrix Process, a seamless eight-phase process was created.

CAPABILITIES MATRIX PROCESS

As discussed, the Capabilities Matrix Process is focused on achieving an end state of a rapidly adaptable force structure with a means of forecasting required capabilities and have the

¹⁹ Heylighen, (15 Apr 2003).

forces to counter near-term and long-term threats to national interests. To accomplish this feat, the key players in the PPBS process (the services, combatant commanders, Joint Staff, and Secretary of Defense) are designated responsibilities commensurate with their previously recognized strengths. In addition, non-DoD agencies are folded into the process to ensure all the resources of the U.S. government are brought to bear on achieving national interests.

Process

The mechanics of the Capabilities Matrix Process is an eight phase continuous cycle linking aspects of the current PPBS in both unique and familiar ways (Figure 2). Together these eight phases comprise a rapidly adaptable decision support system based on a standard set of capabilities with real-time sharing of requirements, capabilities, and resources. Due to a high degree of automation the process can be lengthened or shortened to meet DoD needs. A recommended length of two years is suggested as a means of coinciding with established budgeting cycles.

The eight phases of the process can be further refined into three groups that emphasize defining requirements, matching capabilities against requirements, and growing capabilities to meet future requirements.

Defining Requirements

The objective of the three initial phases of the Capabilities Matrix Process is to define the priority requirements against which the services will assign force structure.

Call for Requirements (Phase 1)

The Joint Staff initiates the process requesting capability requirements from the combatant commands through the Capabilities Assessment Planning System (CAPS).

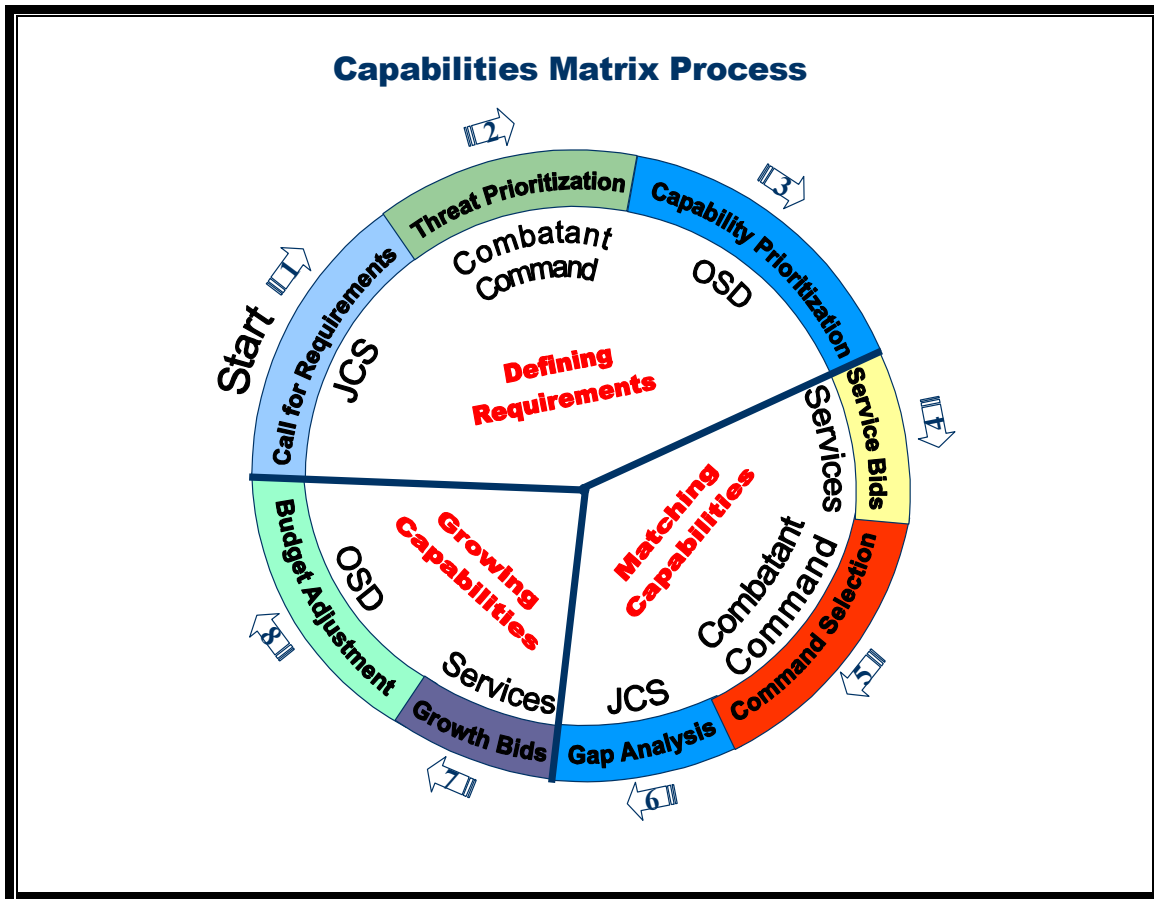


Figure 2

Threat Prioritization (Phase 2)

The commands then prioritize the threats in their areas of responsibility. Plans to address these threats are described using a standard set of capabilities agreed to by the combatant commands and the services. The list at Figure 3, while not all-inclusive, provides a glimpse at a vocabulary for DoD capabilities that offers a means of communicating force requirements. Specifying capabilities and not specific weapons systems encourages innovation in addressing capability requirements.

To complement this new capability vocabulary, a standard set of units of measure for each capability will also need to be developed. An example is Air Dominance measured in thousands

of square miles or hundreds of enemy aircraft. The critical element of the measure is that all services and combatant commands agree on the measure, not the unit of measure itself.

These capabilities and units of measure provide a standard language for the services and combatant commands to discuss what needs to be accomplished to address each threat. As described in the “scenario,” the Commands’ plans are entered into CAPS to facilitate this discussion.

Notional	
Capabilities	Units of Measure
Info Dominance	Opponent’s Capability/Reliance (Advanced, Moderate, Basic, None)
Air Dominance	Thousands of Sq Miles / Hundreds of Opponent’s Aircraft (Advanced, Moderate, Basic, None)
Sea Dominance	Thousands of Sq Miles / Thousands of Miles of Coastline
Land Dominance	Thousands of Sq Miles / Hundreds of Opponent’s Assault Vehicles (Advanced, Moderate, Basic, None)
Space Dominance	Opponent’s Capability/Reliance (Advanced, Moderate, Basic, None)
Cyber Dominance	Opponent’s Capability/Reliance (Advanced, Moderate, Basic, None)
Special Ops	N/A: Requires tailored bids against specific requirements
Mobility Ops	Inter/Intra-theater: tons, cubic feet, distance, time, passengers
Defensive Ops	Thousands of Sq Miles / Hundreds of Opponent’s Assault Aircraft, Vehicles, Vessels, Personnel (Advanced, Moderate, Basic, None)
Peace Ops	N/A: Requires tailored bids against specific requirements
Power Projection	Distance, Time
Forward Presence	Footprint: Unit Size, Type, Personnel
Command & Control	Force: Size, Type, Geographic Dispersion
Forcible Entry	Thousands of Sq Miles / Hundreds of Opponent’s Assault Aircraft, Vehicles, Vessels, Personnel (Advanced, Moderate, Basic, None)
Interdiction	Thousands of Sq Miles / Hundreds of Opponent’s Assault Aircraft, Vehicles, Vessels, Personnel (Advanced, Moderate, Basic, None)
Strategic Deterrence	Opponent’s Capability/Reliance (Advanced, Moderate, Basic, None)
Counter-terrorism	N/A: Requires tailored bids against specific requirements
Reconnaissance	Thousands of Sq Miles / Hundreds of Opponent’s Assault Aircraft, Vehicles, Vessels, Personnel (Advanced, Moderate, Basic, None)

Figure 3

Capability Prioritization (Phase 3)

Using CAPS, the Joint Staff then consolidates the combatant commands’ prioritized lists of requirements. This affords the Secretary of Defense an opportunity to prioritize the threats to

U.S. interests across all combatant commands. This list later translates into DoD budget priorities for existing force structure and forms the basis for the Capabilities Matrix.

Matching Capabilities

The next three phases are dedicated to matching service capabilities against the requirements framework.

Service Bids (Phase 4)

This is accomplished by giving the services the opportunity to bid on force requirements listed in the Capabilities Matrix. Unlike the current process, the services are restricted from bidding the same force structure against multiple priority capability requirements. They may bid the same force structure as an alternate to other requirements, but are limited to one primary bid. This constraint on the bid process ensures DoD is able to assess the extent of concurrent operations the U.S. military is able to fulfill. This also enables an objective evaluation of existing force structure against requirements and serves as the baseline for the gap analysis conducted in phase 7 of the Capabilities Matrix Process.

Non-DoD agencies, such as the CIA, are also afforded the opportunity to bid. These agencies, at least initially, are considered additive forces and would not be required to participate in the Capabilities Matrix Process. If these agencies eventually evolved into full partners with DoD, they could also solicit service bids for agency capability requirements. This would likely involve mission areas such as drug enforcement and homeland defense.

A bid process of this complexity can only be facilitated through computer automation. In this case, the process is enhanced through the use of an optimization model incorporated into CAPS. This model provides an automated means of evaluating thousands of combinations of

prioritized capability requirements and capability bids. The output from this model will give the combatant commands a basis for evaluating service bids.

Command Selection (Phase 5)

Once the model's output is received, the combatant commanders select the most effective bids for the command's capability requirements. This bid resolution process provides an incentive for the services and non-DoD agencies to work jointly to ensure their bids are complimentary. Otherwise, a service that loses a bid may find itself tasked with less desirable requirements left over after the initial bid process or with untasked force structure. It is assumed that force structure repeatedly untasked through this process may go unfunded and would come under increasing pressure to be eliminated. This creates a built-in incentive for the services to work together on force packaging and could lead to an unprecedented level of cooperation, as well as a reduction in redundant capabilities.

Gap Analysis (Phase 6)

Once the requirements are assigned, the Joint staff is charged with conducting a capabilities gap analysis. This analysis, automated to a large extent using CAPS, identifies shortfalls in military capabilities relative to the requirements specified by the combatant commands (Figure 4). The Secretary of Defense then prioritizes the shortfalls in capabilities.

Growing Capabilities

The final two phases are directed at the developing new DoD capabilities to meet anticipated requirements.

Growth Bid (Phase 7)

The services are given an additional opportunity to bid for increased force structure. The bids describe in detail the resources required to provide the added capability. These bids may also include multiple services and agencies in a cooperative agreement.

Budget Adjustment (Phase 8)

The Secretary of Defense then selects the most effective bids. These bids are then automatically linked to DoD priorities during the appropriate budgeting cycle. This provides a streamlined way for the services to seek and acquire additional force capabilities.

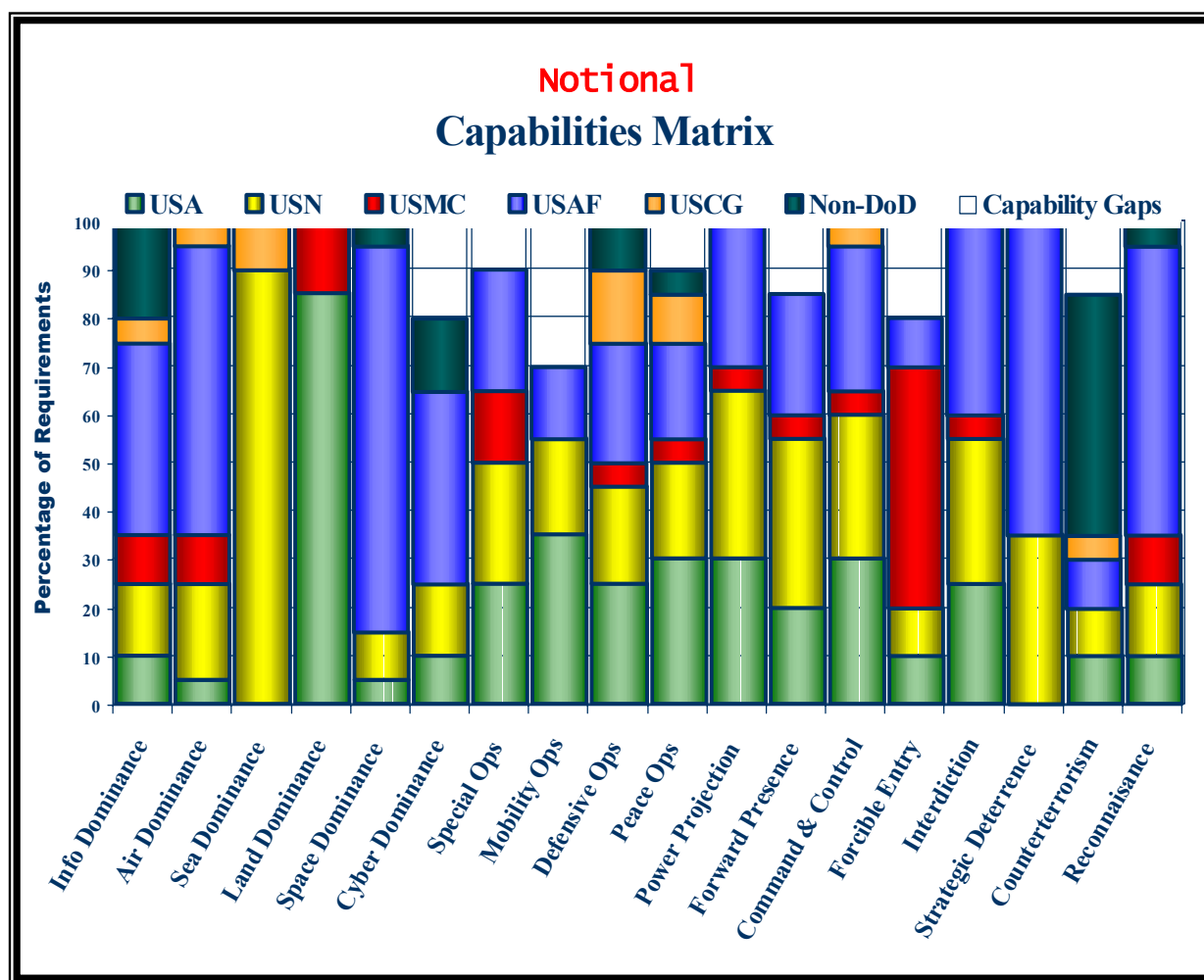


Figure 4

Infrastructure

Implementing the eight-phases of the Capabilities Matrix Process will require several unique tools not currently in the DoD arsenal. Devising the standard capabilities and units of measure are likely to be a difficult and lengthy process. Each service and agency involved will need to commit individuals to the effort with the required expertise if it is to be achieved in the near-term. Given the complexity of this issue, the standard staffing process will not suffice. A DoD working group of senior service and agency officials should form into a task force to lay the framework for development efforts. A strict timeline will need to be determined by this task force to ensure rapid execution of the milestones. Once the standards for capabilities and associated units of measure are determined, a contract for programming support to develop a suite of computer applications will be required.

This computer application suite, referred to as Capabilities Assessment Planning System (CAPS) in this paper, is critical to the rapid execution of the Capabilities Matrix Process. Throughout the process, OSD, JCS, the Combatant Commands, and the services will use this system to fulfill their responsibilities. Best described as a decision support system for the Capabilities Matrix Process, CAPS has the inherent benefit of providing real-time sharing of information during each phase of the process. Without CAPS, the logistics of communicating information throughout the process would drive cycle time and negate gains derived from being able to alter process duration. CAPS also ensures authorized personnel at all levels are making decisions using the most current information. Given the critical nature of force management decisions, this is invaluable.

In addition to these investments, DoD regulatory guidance regarding the planning cycle will need to be reviewed and if necessary suspended during the initial Capabilities Matrix cycle.

This will provide an environment conducive to exploration of alternatives without the time required to alter associated regulatory guidance during execution. Statutory constraints will also need to be identified and pursued if required. The likely area of concern in this regard is the budget process. Overall, while this infrastructure is substantial, the associated costs are front loaded and limited relative to the size of the DoD budget. As a result, the costs should not adversely affect force structure. This is noteworthy given the increasing number of critical U.S. interests being pursued concurrently. Once the infrastructure is in place, fielding the Capabilities Matrix Process becomes both feasible and desirable.

CONCLUSION

This system enables the achievement of the previously described end state: DoD must have a rapidly adaptable force structure, tailored to meeting near and long-term threats to national interests. Specifically, it provides for the attainment of the following attributes:

- 1) **Provide rapid adjustment and prioritization of war-fighting requirements and capabilities**—the Capability Matrix Process is a continuous process that provides the services and agencies involved the ability to adjust to constant changes in combatant command requirements. The exact timing of the cycle can be shortened to provide increased flexibility or lengthened beyond the proposed two-year cycle to provide stability. This process also provides OSD the ability to prioritize threats to U.S. interests. The built-in flexibility and prioritization aspects of this process will ensure the maximum effectiveness of existing capabilities.
- 2) **Encourage a cooperative culture among the services when building capability packages**—the incentive for cooperation among the services is process-driven. Those services who choose to “go-it-alone” and bid for priority capability packages are likely

to find themselves being passed over for multi-service proposals. The forces that are not selected by the combatant commanders will then be assigned to other capability packages left over from the initial bidding or left unassigned. Force structure left unassigned routinely would be a prime candidate for reduced funding, restructuring, or elimination.

- 3) **Incorporate the capabilities of non-DoD agencies**—the automation of the bid process will allow for the addition of non-DoD agencies. Envisioned initially as additive forces, non-DoD agencies could evolve to full partners if requirements for missions such as Homeland Defense are rolled into the Capabilities Matrix.
- 4) **Capitalize on the strengths of the process participants**—the proposal also capitalizes on the strengths of the players involved in the process. The Secretary of Defense is able to apply his global vision to determine priorities for achieving U.S. interests. The Joint Staff functions as the facilitator for the entire process. The combatant commands are able to focus their efforts on regional threats and required capabilities. The services can take advantage of their in-depth expertise of their weapons systems and find creative ways to package existing force structure to meet combatant command requirements.
- 5) **Enable the planning process to drive the budget process**—the capability match is front loaded in the process allowing funding priorities to be driven by Secretary of Defense-directed priority requirements. The adjustable cycle time of the Capabilities Matrix Process also allows for synchronization with the budget cycle.
- 6) **Ensure capabilities meet current and future requirements**—the identification of the most likely threats by the combatant commanders and the global prioritization by the

Secretary of Defense provides a forecasting tool for DoD. The two-bid procedure, one for current capabilities and one for additive capabilities, ensures the services are given the resources required to develop the required capabilities. If resources are not available, the gaps can be dealt with in advance of the requirement.

Given these attributes, the Capabilities Matrix Process presents a unique opportunity. It delivers a capability-based force-tailoring process without the innovation inhibiting restrictions imposed by the current PPBS process. While it could be argued that it would be too difficult to launch a new process, it should be considered that the PPBS, with its many years of additive reporting requirements and links to innumerable other systems, also poses a sizeable transformation challenge. The issue then rests with the previously described attributes and end state for a rapidly adaptable force development process. Can these attributes and end state be realized through a revision of the PPBS? Or, is it more reasonable to rely on a process designed from inception to deliver a rapidly adaptable force development process? While PPBS has served the DoD for decades, it is time to move to a system that has the inherent flexibility to respond to emerging requirements; the Capabilities Matrix Process is such a solution.

Bibliography

- Cebrowski, Arthur K., VADM USN (Ret). "Transforming Defense." Transformation Trends. 21 October 2002. <<http://www.cdi.org/mrp/tt-21oct02.pdf>> (25 November 2002).
- Davis, Stanley M., and Paul R. Lawrence. Matrix. Massachusetts: Addison-Wesley Publishing Company. 1977.
- Fallon, William J., ADM. "Future of Navy Transformation: Navigating a Crossroads in History." Remarks to IDA Seminar: "Innovation and Changing Military Culture." 23 August 2002.
- Heylighen F. "Basic Concepts of the Systems Approach." Principia Cybernetica Web, 1998. <<http://pespmc1.vub.ac.be/SYSAPPR.html>> (15 Apr 2003).
- Knight, Kenneth, ed. Matrix Management: A Cross-functional Approach to Organization. England: Gower Press, Teakfield Limited, 1977.
- "The Lockheed Martin Aeronautics Team." Lockheed Martin Aeronautics Company, 2003. <http://www.lmaeronautics.com/products/combat_air/x-35/team.html> (15 Apr 2003).
- Maglin, William H., II, LTC, USA. "Reforming PPBS: Its Time Has Come," USAWC Strategy Research Project, 1998. Pennsylvania: Army War College, 1998.
- Nardulli, Bruce R., and Thomas L. McNaugher. Transforming America's Military. Edited by Hans Binnendijk. Washington DC: National Defense University Press, 2002.
- Ochmanek, David A. Transforming America's Military. Edited by Hans Binnendijk. Washington DC: National Defense University Press, 2002.
- Ries, Stephen H., Capt, USN (ret), ed. The Joint Staff Officer's Guide 2000: JFSC Pub 1. 2000. Washington, D.C.: GPO, 2000.
- Rumsfeld, Donald H. "Message from the Secretary of Defense," Annual Report to the President and to Congress, 2002. <http://www.defenselink.mil/execsec/adr2002/html_files/Message.htm> (25 November 2002).

Rumsfeld, Donald H. "Transforming the Military," Foreign Affairs 81, no. 3. (2002).

Rumsfeld, Donald H. Transformation Trends. 17 March 2003. <[http://www.oft.osd.mil/library/library_files/trends/trends_30_Transformation%20Trends 17%20March%20Issue.pdf](http://www.oft.osd.mil/library/library_files/trends/trends_30_Transformation%20Trends%2017%20March%20Issue.pdf)> (15 April 2003).

"Transformation Planning Guidance." Office of Force Transformation. April 2003. <[http://www.oft.osd.mil/library/library_files/documents/document_8_Transformation%20Planning%20Guidance%20\(April%202003\)1.pdf](http://www.oft.osd.mil/library/library_files/documents/document_8_Transformation%20Planning%20Guidance%20(April%202003)1.pdf)> (15 Apr 2003).

West, Bing. Transforming America's Military. Edited by Hans Binnendijk. Washington DC: National Defense University Press, 2002.